

# A comparative study of factors affecting customer satisfaction in private and public sector hospitals in Tehran

Abolfazl Khosravi<sup>1</sup>, Ali Anvari<sup>2</sup>

<sup>1</sup>Human Resources Management, Allameh Tabatabaie University, Iran; <sup>2</sup>Operations and Production Management, Tarbiat Modares University, Iran

## Abstract

The purpose of this study is to investigate and compare factors affecting customer satisfaction in public and private sector hospitals. The study is based on a survey of 385 customers of Tehran city hospitals. The sampling approach is cluster sampling, which is taken from private and public sector hospitals. Primarily interviews were used to identify behavioral and organizational factors, which affect customer satisfaction. Then using a questionnaire in Likert scale type we gathered the data. The data were analyzed with SPSS software package. The effects of some customer-related factors on satisfaction of customers are tested in this study. These factors include good behavior with patients, qualified services, accountability of personnel and the patients' attitudes. The results show a positive relationship between these factors and satisfaction of customers. Based on the satisfaction level of the patients, this study also shows that there is a significant difference between public sector and private sector hospitals. In fact, the satisfaction level of patients in the private sector is higher than that in the public sector.

**Keywords:** Customer Orientation, Hospital Management, Accountability, Customer Satisfaction.

## Introduction

In health care, customer satisfaction is an important evaluation means to determine the quality of services. In recent years, the concept has assumed much greater significance particularly in the market based health systems. Furthermore, in World Health Organization's framework for health care assessment, the customer satisfaction is given due consideration (Murray & Frenk, 1999). On the contrary, particularly in developing coun-

tries, the concept is one of the most ignored ones in evaluation of health care systems, especially in public sectors. It is obvious that management has had a significant impact on service delivery in public sector organizations throughout the world (OECD, 1995).

A main goal of traditional public organizations was to focus on public choice theory. This theory has been one of the most influential bodies of theory in the reform of traditional public bureaucracies. One of the underlying assumptions of public choice theory is that human behavior is motivated by individual self-interest (Parker, Ryan, & Brown, 2000, p. 37). When this theory is applied to the public sector, it leads to the conclusion that administrators in bureaucratic organizations tend to utilize their power in the pursuit of their own self-interest rather than in meeting the public interest. However the main aim of a public organization is to serve people. The new public management concepts involve a shift in emphasis from rule enforcement and administration to the attainment of results through mission statements, performance management and performance-based rewards (Metcalf & Richards, 1992). A reliable base for performance management is customers' satisfaction. In this study by introducing a framework for customer satisfaction appraisal, we have compared the results in both public and private sector hospitals.

## Literature Review

Irfan & Ijaz (2011) have compared public and private hospitals based on service quality. By defining service quality in five elements of Empathy, Tangible Factors, Assurance, Timeliness and Responsiveness, they concluded that private hospitals aim at providing better healthcare facilities to the patients and also playing a positive role in order to lower the public hospital burden (Irfan & Ijaz, 2011, p. 17). Draper, Cohen, & Buchan

**Corresponding author:** Abolfazl Khosravi, Human Resources Management, Allameh Tabatabaie University, Iran. E-mail: [khosravi176@gmail.com](mailto:khosravi176@gmail.com)

(2001) have studied other surveys with the subject of customer satisfaction in health care systems. They have extracted some elements that affect customer satisfaction (Draper, Cohen, & Buchan, 2001). In Iran, Amerioun, *et al.* (2010) have studied demographic characteristics as a driving factor in customer satisfaction. They have focused on characteristics of hospitals to measure the satisfaction level (Amerioun, *et al.*, 2010). Yesilada & Direktör (2010) have compared public and private hospitals based on the quality of services. They have concluded that the three elements of reliability-confidence, empathy and tangible factors are the main determinants of customer satisfaction (Yesilada & Direktör, 2010).

## Research Design

Based on literature review and interview with experts, in this study four factors affecting satisfaction are considered as “perceived quality of medical services” (Geetika, 2010) and (Irfan & Ijaz, 2011), “behavior of personnel” that involves empathy and is mentioned in most studies (Yesilada & Direktör, 2010), (Peters, 1998) and (Irfan & Ijaz, 2011), “accountability of personnel” (Brinkerhoff, 2004) and (Romzek & Ingraham, 2000) and finally “visitors’ attitudes” (Irfan & Ijaz, 2011). These factors are shown in Figure 1. So, the model of the study would be:



**Figure 1. Customer Satisfaction Model**

### 1- Quality of medical services

Based on ISO 9000: 2005 standard definition, quality is the degree to which a set of inherent characteristics (of a product or service) fulfills (customer) requirements (International Standard Organization, 2005, p. 30). Many of the organizations recognize quality as a sense of responsiveness in all areas. Satisfaction from medical service quality is usually evaluated in terms of technical quality and functional quality. Usually, customers do not have much information about the technical aspects of a service; therefore, functional quality becomes the major factor which forms perceptions of medical ser-

vice quality. Service quality may be defined as customer perception of how well a service meets or exceeds their expectations (Geetika, 2010, p. 97). The evaluation of service quality leads to customer satisfaction (Geetika, 2010, p. 98).

### 2- Behavior of personnel

This concept involves the good manner and polite relationship of the personnel with customers. In an eligible public sector organization, the manner of employees with clients should be even better than private sector organizations. It is because of the clients are citizens and the real owners of the government and public sector (Peters, 1998, p. 1782).

### 3- Accountability

The essence of accountability is responsiveness; being accountable means having an obligation to answer questions regarding decisions and/or actions (Brinkerhoff, 2004, p. 372). Accountability includes internal and external accountabilities. Internal accountability refers to interior control and conscience and being responsible. External accountability is exerted by supervisory control. Accountability is of importance because the size and scope of health care bureaucracies in both the public and private sectors have a significant effect on people's lives and well-being. Further, health care constitutes a major budgetary expenditure in all countries, and proper accounting for the use of these funds is a high priority (Brinkerhoff, 2004, p. 371)

### 4- Visitors' Attitudes

“Composition of perceptions, feelings and readiness toward something is the attitude of a person about it” (Karimi, 1998, p. 263). The importance of attitude is related to how it affects the behavior and decisions of the individual (Robbins, 1998, p. 283). In this study, different attitudes towards public and private hospitals are investigated as a determinant factor affecting satisfaction of patients. In healthcare, patient perceptions are considered to be the major indicator in order to assess the service quality of a healthcare organization. It means that customer satisfaction is the major device for critical decision-making in selecting healthcare services (Irfan & Ijaz, 2011, p. 2).

### Research Hypothesis:

Main hypothesis: Improving customer orientation has a positive effect on satisfaction of visitors.

Subsidiary hypothesis:

H<sub>1</sub>: Hospitals' personnel behavior affects satisfaction of visitors.

H<sub>2</sub>: Hospitals' personnel performance quality affects satisfaction of visitors.

H<sub>3</sub>: Hospitals' personnel accountability affects satisfaction of visitors.

H<sub>4</sub>: Attitudes of visitors about the hospital type (private or public) affect their satisfaction.

H<sub>5</sub>: There is a significant difference between visitors' satisfaction in private and public hospitals.

### Research scope

The study is limited to a sample of six hospitals in public and private hospitals of Tehran city, Iran. The study was completed in year 2011.

### Methodology

This study is a descriptive research. This kind of research describes and interprets what exists and focuses on the present time. The main tool for measuring the characteristic of the samples in a descriptive research is survey. This is a research method involving the use of questionnaires and/or statistical surveys to gather data about people and their thoughts and behaviors. Additionally, the aim of this research is solving a problem, so it is an applied research.

Applied research is a form of systematic inquiry involving the practical application of science.

### Research population

The population of research is the set of visitors (patients and their participants) to private sector and public sector hospitals of Tehran city, Iran. So, six hospitals were selected through cluster sampling. Three hospitals were private and three public sector hospitals.

### Sampling method

In this study, sampling method used was clustered sampling. It is "Choosing some clusters systematically or by random selection, subjects are chosen among clusters by the same manner" (Azar & Momeny, 1998, p. 8) When there is an infinite (very large) population size, or it is impossible to have a list of population members, or the population members are distributed geographically in a way that the researcher cannot access them all, cluster sampling is a suitable method of sampling. This method is useful when units in the population can often be found in geographical groups or clusters. By classifying Tehran hospitals in two clusters (public and private), three hospitals were randomly selected among all public hospitals, and three hospitals were randomly selected among all private hospitals as listed below:

Public sector hospitals (Name/ Address)	Private sector hospitals (Name/ Address)
Imam Hussein Hosp. / Imam Hussein Ave.	Tous Hosp. Motahhari Ave.
17 Shahrvivar Hosp. / Damavand Ave.	Tehran Hosp. Karim- KhanZand Ave.
Shariati Hosp. JalaalAal Ahmad Ave.	Day Hosp. ValiAsr Ave.

### Sample size

In this study, we had an infinite (very large) population size; in other words, it is impossible to have a list of population members. The appropriate sample size for a population-based survey is determined largely by three factors: (I) the estimated prevalence of the variable of interest ( $P$  is the probability of success as in Bernoulli distribution and  $q=1-P$ ), (II) the desired level of confidence ( $1-\alpha$ ), and (III) the acceptable margin of error ( $\epsilon$ ) which is estimation error. For a survey design based on a simple random sample, if sampling is random and distribution would be assumed normal, the sample size required can be calculated according to the following formula:

$$n = \frac{z_{\alpha}^2 P(1-P)}{\epsilon^2}$$

This formula is useful when population size is assumed to be infinite. If there is no estimation for  $P$ , it is considered 0.5 which maximizes  $n$  and the sample would be large enough (Azar & Momeny, 1998, p. 77).

Considering  $P=0.5$ ,  $\alpha=5\%$  ( $1-\alpha = 95\%$ ) and  $\epsilon=5\%$ , the sample size would be:

$$n = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 384.16 \approx 385$$

### Research variables

Hospitals' personnel behavior, hospitals' personnel performance quality, hospitals' personnel accountability and the attitudes of visitors about the hospital type (private or public) are considered as independent variables and the satisfaction of visitors is the dependent variable.

### Research validity

Validity is the most important characteristic to consider when constructing or selecting a test or measurement technique. A valid test or measure is one which measures what it is intended to measure. To maximize the validity of the test, randomized selection

of subjects, previous studies about factors affecting satisfaction to examine content validity, and a pretest were done to examine the questionnaire construct validity.

### Research Reliability

Reliability refers to the degree to which a measuring procedure gives consistent results. That is, a reliable test is a test which would provide a consistent set of scores for a group of individuals if it was administered independently on several occasions. Reliability is a necessary but not sufficient condition for validity. The validity of the test was examined using Cronbach's alpha coefficient with SPSS software. An alpha coefficient measures how each item correlates with another item in the scale. It is a measure of consistency because if the items in the scale are related to each other, it is an internally consistent measure. Cronbach's alpha coefficient is measured as below (Sarmad, Bazargan, & Hejazi, 2009, p. 169):

$$r_{\alpha} = \frac{J}{J-1} \left( 1 - \frac{\sum S_i^2}{S^2} \right)$$

$J$  = Number of questions

$S_j^2$  = Variance of answers of a question

$S^2$  = Total variance of test

Cronbach's alpha coefficient is  $r_{\alpha} = 0.9321$ . So, in 95% confidence level, the reliability of the tests is high.

## Results

1- Hypothesis 1 was "hospitals' personnel behavior affects satisfaction of visitors." Using the Likert scale, 1 stands for "absolutely negative" and 5 stands for "absolutely positive". The analysis of data shows the average of 4.54 in all respondents. 343 respondents answered "positive" or "absolutely positive", 38 answered "I have no idea" which was the neutral option and only 4 respondents answered "negative" or "absolutely negative". So, with a confidence level of 95%, the hypothesis 1 is accepted.

2- Hypothesis 2 was, "the quality of the hospitals' personnel performance affects satisfaction of visitors." The results show the average of 4.51 in all respondents. 358 respondents answered "positive" or "absolutely positive", 22 replied "I have no idea" which was the neutral option and only 5 respondents answered "negative" or "absolutely negative". So, with a confidence level of 95%, hypothesis 2 is accepted.

3- The 3<sup>rd</sup> hypothesis, i.e. accountability of the hospitals' personnel, affects satisfaction of visitors

was also confirmed. An average of 4.22 in all respondents agreed with it. 300 respondents answered "positive" or "absolutely positive", 68 answered "I have no idea" which was the neutral option, and 17 respondents answered "negative" or "absolutely negative".

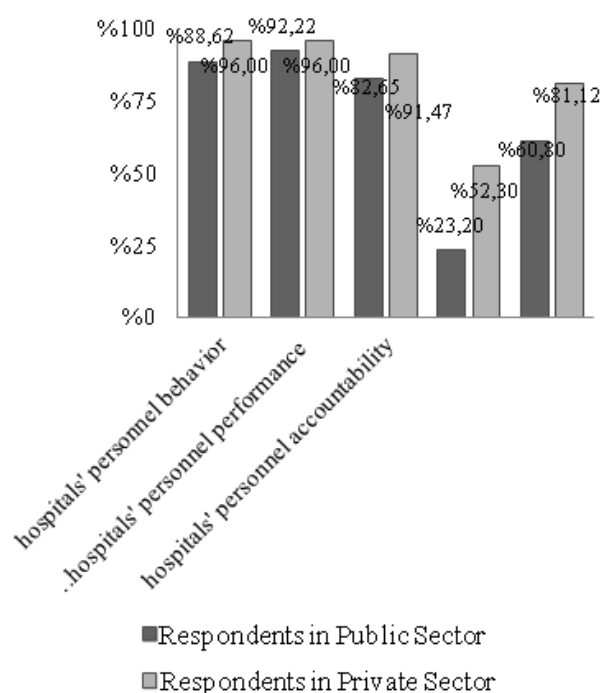
4- The 4<sup>th</sup> hypothesis was "Attitudes of visitors about the hospital type (private or public) affect their satisfaction." To test this hypothesis, two different types of visitors were considered; they evaluated private hospitals with a positive view and had a negative or at least neutral opinion about public sector hospitals as compared with private hospitals. On the other hand, there were respondents who evaluated public hospitals with a positive view and had a negative or at least neutral opinion about private sector hospitals in comparison with public hospitals. Data analysis showed there is a significant difference between visitors' responses with different attitudes in private and public hospitals. The average satisfaction of the first group (who had a positive opinion about private hospitals) was 3.82, and that of the second group (who had a positive opinion about public hospitals) was 2.65. Using Statistical Sign test, the difference between the ranks of the two groups was confirmed. 328 negative difference, 45 negative difference and 12 zero difference were recorded. So, the hypothesis was accepted.

5- Using Chi-Square test, a significant relationship between satisfaction level and hospital type (private or public) was determined and using Mann-Whitney test, it was confirmed that there is a significant difference between visitors' satisfaction in private and public hospitals.

The mean satisfaction in public sector hospitals was 2.48 and in private hospitals it was 3.99. Considering 3 as distinction level of satisfaction and dissatisfaction, it is obvious that mean satisfaction of public hospitals' visitors is low (unsatisfactory).

6- Confirmation of hypothesis 1 to 4 results in confirming the main hypothesis which was: improving customer orientation factors has a positive effect on satisfaction of visitors. However, there is a difference in priorities of factors between public and private hospitals. Figure 2 summarizes the results. As it is obvious, in public hospitals the most important factor affecting customer satisfaction is the quality of hospitals' personnel performance (92.22%) but in private sector hospitals both the quality of hospitals' personnel performance and hospitals' personnel behavior (96%) are the main factors that affect customer satisfaction. Other results and priorities are shown in Figure 2.





**Figure 2. Factors that affecting satisfaction**

7- About 96% of the respondents in public hospitals and 82% of those in private hospitals agreed that interior control and conscience are not enough to create accountability and the external accountability which is exerted by supervisory control.

## Discussion

To improve the behavior of hospitals' personnel, some suggestions are:

- Including some behavioral and customer orientation courses in the medical sciences syllabi
- Using a recruitment system based on factors affecting customer orientation specially human relationship and quality of medical services
- Holding on the job training of behavioral sciences
- Considering behavioral indicators in the performance appraisal which should be linked to a compensation system.

To improve the quality of the performance of hospitals' personnel, some suggestions are:

- Providing suitable technical equipment
- Developing an organizational structure which clarifies responsibilities and facilitates communication
- Arranging continuous supervision to ensure sufficient care for patients and ensuring that the supporting processes of the hospital are well managed.

- Following international standards about patients' care and nursing. There are different standards, but overall more than 32 beds in each ward would make nursing care insufficiency and less than 16 beds in each ward is not economical because of supervisory costs.

- Employing technical personnel in staff positions; in some cases patients are in bad conditions because of administrative pitfalls such as delay or financial reasons in case of emergencies. If the staff's key posts are positioned with technical personnel (medical proficiencies), the responsibilities would be distributed clearly.

To improve the accountability of hospitals' personnel, some suggestions are:

- Using a patient satisfaction questionnaire for personnel appraisal. This is a good tool for tracing and improving pitfalls. In some countries like Ireland, it is a common evaluation tool (Millar & Mckevitt, 2000). This issue is also mentioned in Hospital acceleration standards in Iran (Jafari, *et al.*, 2010).

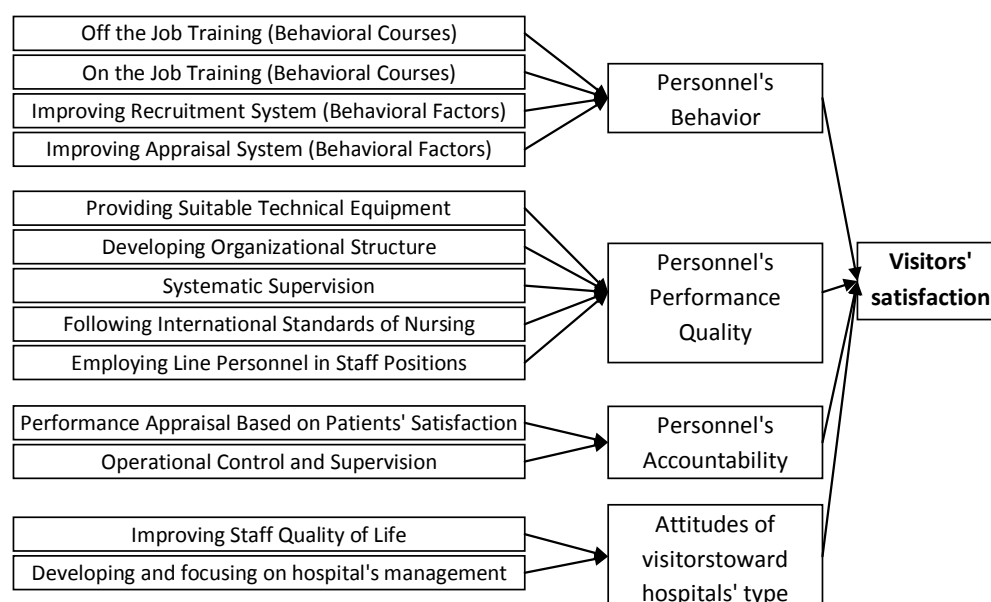
- Operational control and supervision; number of nurses per bed is commonly determined based on financial aspects and workflow needs, but it should be optimized based on necessary span of control and supervisory factors.

To decrease the difference between visitors' satisfaction in private hospitals and public hospitals, some suggestions are:

- Implementing a system for improving conditions and quality of life of personnel; bad economic conditions of staff in public sector hospitals is an important factor that affects medical service quality. In Iran insufficient and/or unfair payments, incorrect performance evaluation, insufficient welfare facilities and equal treatment with those who obey rules and those who don't predispose neglecting ethics and rules (Abtahi, 2002).

- Developing and focusing on hospital's management: In private hospitals, the manager has an important role in visitors' satisfaction. It is because the manager focuses on his or her duty that improves visitors' satisfaction. On the other hand, public hospitals' managers commonly have some other jobs and responsibilities which limit the managers' time and supervision. So, it is better to employ physicians who do not have other responsibilities. It is recommended to employ graduates of hospital management discipline. They aren't busy in their own clinics and would focus on hospital itself.

Figure 3 shows the proposed model based on research results as a diagram.



**Figure 3. Hospital Visitors' Satisfaction Model (purposed)**

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